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15 January 2018

Mr. John Nordine
U.S. EPA Region 5
RCRA Enforcement and Compliance Assurance Branch (LU-16)
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Central Wire, Union, Illinois RCRA CMI Monthly Progress Report, December
2017
EPA ID: ILD005178975

Dear Mr. Nordine:

Enclosed please find the RCRA CMI Monthly Progress Report for the Central Wire facility located in Union, Illinois for December 2017.

This report includes the eDMR for the groundwater pump & treat facility and the NPDES laboratory analytical reports, which include the effluent data used in the eDMR. It also includes the **Ex. 6 Personal Privacy (PP)** analytical data for Volatile Organic Compounds (which is included in the 12-2017 NPDES Analytical Report file) and the semiannual RCRA monitoring and residential well sampling.

If you have any comments or questions regarding the progress of this project, please contact me at (262) 237-1130.

Sincerely,

Autumnwood ESH Consultants, LLC

John W. Thorsen, P.E.

JWT:jt

encl

cc:	Joyce Munie	IEPA
	Robert Kay	USGS
	Gerald W. Ruopp	Central Wire
	Robert Johnson	Central Wire

MONTHLY PROGRESS REPORT
Central Wire Union, Illinois Site
December 2017

- 1 Progress Made This Reporting Period** – In this reporting period Central Wire Inc. (CWI) continued the operation and maintenance of the groundwater extraction and treatment (P&T) system. CWI treated an average of 498,000 gallons per day (GPD) with a maximum daily flow of 509,000 GPD. Table 1, attached, lists the average daily P&T volumes by month from January 2015 through December 2017.

The monthly NPDES sample met effluent limitations for pH, 1,1,1-Trichloroethane (TCA), Trichloroethene (TCE) and Tetrachloroethene (PCE). The electronic Discharge Monitoring Report (eDMR) for the month is attached to this report.

The laboratory analytical report for the pump and treat effluent sample and the **Ex. 6 Personal Privacy (PP)** were collected on December 18, 2017 and arrived at Test America Laboratory on December 19, 2017 at 0.4° C. There were no volatile organic compound detections in the **Ex. 6 Personal Privacy (PP)**

The two **Ex. 6 Personal Privacy (PP)** engines were placed in storage in November 2017.

2 Summary of Validated Data and Results

Pump & Treat System Monthly NPDES Samples

The permit limitations and analytical results are shown in Table 2, below. There were no effluent limitation exceedances.

Table 2
Central Wire Union Illinois Pump & Treat Discharge Analytical Results

Parameter	Effluent Limitation (Daily Maximum), µg/L	Analytical Results, µg/L
1,1,1-Trichloroethane	20	< 0.38
Tetrachloroethene	20	< 0.37
Trichloroethene	20	0.78

Pump & Treat System Quarterly Influent Samples

On a quarterly basis Central Wire collects samples from the two extraction wells to evaluate the effectiveness and efficiency of the pump and treat system. Table 3 shows the current influent data from the pump & treat system and estimated removal efficiencies.

Table 3
CWI Pump & Treat Influent VOC Concentrations from Extraction Wells 1 & 2

Chemicals Detected	EW-1 (µg/L)	EW-2 (µg/L)	Estimated Treatment Efficiency
1,1,1-Trichloroethane	3.6	16	98.4%
1,1-Dichloroethane	21	1.4	96.3%
1,1-Dichloroethene	7.2	0.56 J	>97.4%
Cis-1,2-Dichloroethene	85	3.2	97.7%
Tetrachloroethene	0.7 J	29	98.8%
Trans-1,2-Dichloroethene	0.9 J	<0.35	>83.7%
Trichloroethene	7.4	10	96.9%

Bold = Value exceeds EPS groundwater standard.

J = Result was less than the Reporting Limit but \geq to the Method Detection Limit and the concentration is an approximate value.

Treatment Efficiencies were calculated by the equation below:

Effluent Concentration

1- ((2*EW1 Influent Conc.) + EW2 Influent Conc.) because the flow in EW1 is estimated to be twice the flow in EW2.

As can be noted from the estimated chemical treatment (removal) efficiencies, the CWI pump & treat system is very effective in removing the chemicals found in the groundwater at the extraction wells.

Ex. 6 Personal Privacy (PP) Sample

Central Wire collected a sample at the **Ex. 6 Personal Privacy (PP)** on December 18, 2017 which is still being used to supply the toilet in the office. There were no detections of volatile organic compounds. These results are in the attached analytical report.

This December 2017 NPDES analytical report also has environmental analytical results for CWI's North and South Seepage Ponds. These ponds are Illinois EPA-regulated seepage ponds for CWI's rinse waters from the annealing process, non-contact cooling water, boiler blowdown and storm water.

December 2017 RCRA Monitoring & Residential Well Sampling Event

The December 2017 semiannual RCRA CMI groundwater and residential well sampling event was conducted on December 18 and 19, 2017. The locations of the monitoring wells and the residential wells are provided on Figure 1-2 (Some figures and tables are extracted from previous reports). The data is summarized in Table 4. The results / trends are summarized below. The historical data and plots of the data are attached to this report as Figures 1 through 12. The laboratory reports for this sampling event also attached to this report. Table 5 provides a crosswalk between the residential well owner's name (which is on Figure 1-2) and the address, which is the Sample Identification in the analytical report for the residential wells. The well stabilization field data is included in Table 6.

- **MW (Monitoring Well) 2** - No Environmental Protection Agency (EPA) Maximum Contaminant Limits (MCLs) have been exceeded since December 2007, see Figure 1.
- **MW-4** - Tetrachloroethene (PCE) has been exceeded since monitoring began in 1995 and since 2010 has trended downward from 70 micrograms per liter ($\mu\text{g/L}$) in December 2010 but has recently been trending slightly upward from 13 and 18 $\mu\text{g/L}$ in December 2016 and June 2017 to 27 $\mu\text{g/L}$ in December 2017. See Figure 2. The Trichloroethene (TCE) has generally been below the MCL since December 2012, but slightly exceeded the MCL in October 2014, June 2016 and December 2017.
- **MW-5** - The PCE MCL has been exceeded since monitoring began in 1995 and has trended downward from 210 $\mu\text{g/L}$ in December 2003 to the 100s in the 2000s and has been less than 100 $\mu\text{g/L}$ since June 2013 and was found at 64 $\mu\text{g/L}$ in December 2017, see Figure 3. TCE, TCA and DCE MCLs were last exceeded in the 2002 – 2005 time frame.
- **MW-5D** – TCE increased rapidly from 1995 to June 2003 (0 to 63 $\mu\text{g/L}$) and has generally trended downward since then with the nine of the ten latest readings ranging from 13 to 19 $\mu\text{g/L}$, see Figure 4. PCE has been below the MCL of 5 $\mu\text{g/L}$ since December 2005.
- **MW-6** - Has only exceeded the PCE MCL and has been slightly below the MCL of 5 $\mu\text{g/L}$ since June 2013 and was right at the MCL in December 2017, see Figure 5.
- **MW-7** - Regularly exceeds the MCL for PCE and has been trending lower since it reached 200 $\mu\text{g/L}$ in December 2006 (the December 2017 result was 42 $\mu\text{g/L}$), see Figure 6. PCE has been less than 100 $\mu\text{g/L}$ since October 2008. The DCE MCL was exceeded in March and December 2009, but other than those two isolated occurrences, has been found at levels below the MCL since December 2003. The TCE MCL was last exceeded in December 2012.

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- **MW-8** - Has regularly exceeded the PCE and TCE MCLs since testing began in 1995, see Figure 7. PCE has come down from 200 µg/L in 2008 to a range of 57 to 73 µg/L since December 2011. TCE levels have come down from a high of 34 µg/L in June 1995 to the June 2015 value of 6.7 µg/L. It was found at 8.9 µg/L in December 2017. TCE has been found at 10 µg/L or less in the last three semiannual samples.
- **MW-9** - Has not exceeded any MCL since April 2002 when it exceeded the PCE MCL with a value of 12 µg/L, see Figure 8. There have only been five detections since then.
- **MW-HBR** – This monitoring well only exceeds the MCL for PCE which it has done since monitoring began in 1995. However, it has generally trended downward from a high of 130 µg/L in 2003 to the current value of 40 µg/L indicating a relatively stable value, see Figure 9. The duplicate sample was collected here and matched the values found in this sample.
- **DGW-1** is a three well nest – shallow (S), Intermediate (I) and Deep (D).
 - No MCLs have been previously exceeded in **DGW-1S** except TCE at slightly above the MCL at 5.6 µg/L in June 2016, see Figure 10. The plot did not specify the dates. These are generally semiannual samples ending in December 2017.
 - **DGW-1I** has exceeded MCLs for DCE, TCE, PCE, TCA and 1,2-Dichloroethane (DCA), see Figure 11. The PCE MCL has not been exceeded since 2002. The DCA MCL has not been exceeded since 2005. The TCA has been above the MCL 18 of the past 21 samples. DCE and TCE were found in December 2017 at 41 and 30 µg/L, respectively.
 - **DGW-1D** has exceeded MCLs for DCA, DCE, TCE and Vinyl Chloride (VC), see Figure 12. The Vinyl Chloride (VC) MCL had been exceeded in six of the last ten sampling events. It was at 1.4 µg/L in December 2017. MCLs for 1,2-DCA have not been exceeded since June 2007 except for a slight exceedance (6 µg/L vs the MCL of 5 µg/L) in December 2012. TCE has been below the MCL since December 2015. 1,1-DCE has generally trended lower since the high of 98.4 µg/L was recorded in December 2005 and was at 6.4 µg/L in December 2017, below the MCL.
- **DGW-2** is also a three well nest (shallow, intermediate and deep) that has been sampled since 2012. There have been no detections in these three wells.

Six residential wells and the former irrigation well Ex. 6 Personal Privacy (PP) were sampled in the December 2017 semiannual RCRA sampling event. There were no detections of any VOCs by EPA Method 8260B, including all the chemicals of concern at Central Wire. The analytical results are attached to this report.

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Table 4
Summary of December 2017 RCRA Monitoring Well Data (µg/L)

Well	TCE	PCE	TCA	DCE	VC
EPA MCL	5	5	200	7	2
MW-2	0	1.2	0	0	0
MW-4	7.6	27	10	1.2	0
MW-5	0.84 J	64	7.9	0	0
MW-5D	13	0.72 J	4.7	0	0
MW-6	0	5	0.5 J	0	0
MW-7	2.4	42	7.9	0.84 J	0
MW-8	8.9	57	0.93 J	0	0
MW-9	0.78 J	0	0	0	0
MW-HBR	0.58 J	40	5.2	0.47 J	0
DGW-1S	2.9	0	13	0	0
DGW-1I	30	0	220	41	0
DGW-1D	2.5	0	3.9	6.4	1.4
DGW-2S	0	0	0	0	0
DGW-2I	0	0	0	0	0
DGW-2D	0	0	0	0	0

Bold = exceeds EPA's Maximum Contaminant Limit

J = Result is < the Reporting Limit but >= the Method Detection Limit and the concentration is an approximate value.

Table 5
Residential Wells Routinely Sampled as a Part of the Central Wire Union, IL RCRA
CMI Semiannual Groundwater Monitoring Well and Residential Well Sampling

Ex. 6 Personal Privacy (PP)

- 3 **Upcoming Events/Activities Planned** – CWI will continue to operate the existing remediation systems. Effluent samples will be collected, analyzed and reported as required in our NPDES permit. CWI has reapplied for the NPDES permit for this system adding a second discharge for the pump and discharge system and awaits comments from IEPA.

CWI has submitted a water well permit application to the McHenry County Health Department for the replacement irrigation well for Ex. 6 Personal Privacy (PP) received a comment letter from the county and has responded to the comments.

CWI is currently seeking a vendor to replace the Ex. 6 Personal Privacy (PP) well with a deeper well sealed and cased into the bedrock. CWI is also putting together an alternative proposal to pump groundwater from the unconsolidated aquifer, treat the groundwater, irrigate the Ex. 6 Personal Privacy (PP) with the treated groundwater and discharge any excess water to the South Branch of the Kishwaukee River.

CWI plans to meet as needed with Ex. 6 Personal Privacy (PP) work out details and schedules, but that work won't kick off until the McHenry water well permit is issued.

Samples will continue to be collected at the Ex. 6 Personal Privacy (PP) every month when the irrigation pumps are not operating, usually between November and March of each year.

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- 4 **Anticipated Problem Areas and Recommended Solutions** – None.
- 5 **Key Personnel Changes** – None.
- 6 **Target and Actual Completion Dates** – This project has not deviated from the project schedule.